

REMARKS

Claims 12-14, 17 and 18 are amended. Claims 15, 31, 33 and 34 are cancelled. Claims 22-30 are withdrawn from consideration. Claims 12-14, 16-21, 32, 35 and 36 remain active and under consideration.

At the outset, Applicants wish to thank Examiner Marvich for the recent helpful and courteous discussion conducted with their U.S. representative, Mr. William Beaumont. The claims amended herewith and associated remarks are in accordance with that discussion, and are responsive to the Advisory Action of March 24, 2010.

Claim 36

Claim 36 is not an ‘added new claim’. This claim corresponds to claim 4 of the PCT application, and to claim 15 of the Preliminary Amendment of this U.S. application. During prosecution, claim 15 was replaced by claim 36. Hence, claim 36 does not present new issues for consideration.

Further, claim 36 is readily distinguishable over the art of record. For example, and in contrast, Poquet et al (Journal of Bacteriology, 1998) merely describe a construct which contains a part of the sequence coding for ZitS. This reference clearly does not read on claim 36 which clearly excludes expression cassettes containing any part of the sequence encoding ZitS. MPEP 2173.05 (i) explicitly sets forth the acceptability of negative limitations in complying with 35 USC 112, second paragraph. Moreover, in this case, the negative limitation “ wherein the

expression cassette does not contain any part of the sequence encoding the *L. lactis* ZitS protein”

provides a clear distinction over Poquet et al as well as the two other references noted in

Advisory Action.

Claims 17 and 18

Claims 17 and 18 are amended pursuant to the recent discussion with Examiner Marvich. Hence, the previous objections to these claims is deemed moot.

Sequence Listing For AAK06214

As noted previously, the protein sequence deposited under GenBank accession number AAK06214 was available in 2001. See the “Sequence Revision History” from NCBI (of record) which shows that protein AAK06214 was available as of February 9, 2001. The corresponding nucleotide sequence was also available then because the genome of *Lactococcus lactis* strain IL 1403 was also sequenced in 2001. See Bolotin et al., “The complete genome sequence of the lactic acid bacterium *Lactococcus lactis* ssp. *Lactis* IL1403”, *Genome Res.*, 2001 May 11(5):731-753. Further, the strain IL1403 is laboratory strain commonly used and widely

accessible.

Thus, Applicants again assert that one skilled in the art would have no difficulty in obtaining the polynucleotide sequence encoding the protein AAK06214, or in reproducing it by synthesis or by screening a DNA library of *Lactococcus lactis* strain IL1403 with probes and/or primers derived from sequence data available in GenBank database. Finally, after having obtained this sequence, the artisan would have no difficulty in incorporating the sequence into an expression cassette according to the claimed invention.

However, Applicants provide herewith a compliant sequence listing and CRF version as requested by the examiner. Further, attached Annex 1 shows the different update dates for sequence AAK06214. May 14, 2001 update (last update before the priority and filing dates of the application). Annex 2 shows the amino acid sequence of locus AAK06214 that was available at the time of filing. The February 26, 2010 update (Annex 3) gives the same sequence as may 14, 2001 update. See Annex 4.

Accordingly, in view of all of the above, it is believed that this application is now in condition for allowance. Favorable consideration to this effect is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'William E. Beaumont', with a long horizontal flourish extending to the right.

William E. Beaumont
Reg. No. 30,996
Juneau Partners, PLLC
Customer No.: 50438

ANNEX 1



Sequence Revision History

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AAK06214

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Search for Genes

Entrez Gene provides gene-specific data for multiple taxa

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Related resources

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[Reference sequence project](#)
[Entrez Gene](#)
[Clusters of orthologous groups](#)
[Protein reviews on the web](#)

Revision history for AAK06214

GI	Version	Update Date	Status	I	II
12725171	1	Feb 26 2010 1:42 PM	Live	⊗	○
12725171	1	Feb 26 2009 8:26 AM	Dead	○	⊗
12725171	1	Jun 2 2004 12:03 PM	Dead	○	○
12725171	1	May 14 2001 12:46 PM	Dead	○	○
12725171	1	Feb 9 2001 4:25 PM	Dead	○	○

Accession AAK06214 was first seen at NCBI on Feb 9 2001 4:25 PM[Disclaimer](#) | [Write to the Help Desk](#)[NCBI](#) | [NLM](#) | [NIH](#)

Last update: Thu, 17 Dec 2009 Rev. 178872

ANNEX 2



Protein

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PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMM Books

Search Protein for [] Go Clear

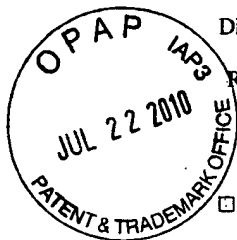
Display GenPept Show 5 Send to

Range: from begin to end Features: ☒ CDD + Refresh

1: AAK06214. Reports zinc transport tr...[gi:12725171]

BLink, Related
sequences,
Identical proteins,
LinksFeatures Sequence

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 VERSION AAK06214.1 GI:12725171
 DBSOURCE locus AE006439 accession AE006439.1
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 ORGANISM Lactococcus lactis subsp. lactis
 Bacteria; Firmicutes; Lactobacillales; Streptococcaceae; Lactococcus.
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 AUTHORS Bolotin,A., Wincker,P., Mauger,S., Jaillon,O., Malarme,K., Weissenbach,J., Ehrlich,S.D. and Sorokin,A.
 TITLE The complete genome sequence of the lactic acid bacterium Lactococcus lactis ssp. lactis IL1403
 JOURNAL Genome Res. 11 (5), 731-753 (2001)
 PUBMED 11337471
 REFERENCE 2 (residues 1 to 145)
 AUTHORS Bolotin,A., Wincker,P., Mauger,S., Jaillon,O., Malarme,K., Weissenbach,J., Ehrlich,S.D. and Sorokin,A.
 TITLE Direct Submission
 JOURNAL Submitted (09-JAN-2001) INRA, Genetique Microbienne, Domaine de Vilvert, Jouy en Josas 78352, France
 COMMENT Method: conceptual translation supplied by author.
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ANNEX 3



Protein

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Show 5

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Range: from begin

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Features: ☒ CDD

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sequences,

Identical proteins,

Links

1: [AAK06214](#). Reports zinc transport tr...[gi:12725171]Features Sequence

LOCUS AAK06214 145 aa linear BCT 26-FEB-2009
 DEFINITION zinc transport transcriptional regulator [Lactococcus lactis subsp. lactis IL1403].

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 ORGANISM Lactococcus lactis subsp. lactis IL1403
 Bacteria; Firmicutes; Lactobacillales; Streptococcace
 Lactococcus.

REFERENCE 1 (residues 1 to 145)
 AUTHORS Bolotin, A., Wincker, P., Mauger, S., Jaillon, O., Malarma
 Weissenbach, J., Ehrlich, S.D. and Sorokin, A.
 TITLE The complete genome sequence of the lactic acid bacterium
 Lactococcus lactis ssp. lactis IL1403
 JOURNAL Genome Res. 11 (5), 731-753 (2001)
 PUBMED 11337471

REFERENCE 2 (residues 1 to 145)
 AUTHORS Bolotin, A., Wincker, P., Mauger, S., Jaillon, O., Malarma, K.,
 Weissenbach, J., Ehrlich, S.D. and Sorokin, A.
 TITLE Direct Submission
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 Vilvert, Jouy en Josas 78352, France

COMMENT Method: conceptual translation supplied by author.

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26/02/2010!

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Last update: Fri, 09 Apr 2010 Rev. 188411

Annex 4

aak06214 : Sequence Revision History v3.0 :: NCBI/NLM/NIH - Windows Internet Explorer

http://www.ncbi.nlm.nih.gov/sviewer/girevhist.cgi

Live Search

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aak06214

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GI	Version	Update Date
12725171	1	Feb 26 2010 1:42 PM
12725171	1	May 14 2001 12:46 PM

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